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VARIOUS METHODS OF EARLY REHABILITATION OF ATHLETES WITH ANKLE JOINT INJURIES

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ABSTRACT

Among the emerging sports injuries, injuries of the upper and lower extremities deserve special attention. Most of the injuries of the lower extremities are injuries of the ankle joint. The main pathogenic link in the occurrence of an ankle joint injury is the level of impact of the traumatic moment. Further, the processes of damage to the soft tissue component, the ligamentous -muscular apparatus and bone-articular structures begin. Then it manifests itself mainly in the development of soft tissue edema in the area of the injury, followed by the launch and development of pathogenic changes. Blood and lymphatic vessels are damaged, which are the main trigger for the formation of edema. All these processes are associated with the occurrence of subsequent compression of the surrounding tissues, an increase in edema and the development of a severe pain syndrome. The search for literature sources made it possible to determine the existing problem and assess the relevance of the ongoing scientific research. The study is aimed at developing and searching for new modern methods, therapy regimens. The aim of the work is to improve the quality of therapy for ankle joint injuries in athletes and to achieve early recovery of lost functions with a return to full-fledged sports activity

KEYWORDS: *early rehabilitation, athletes, ankle joint, trauma, kinesis taping, electromyostimulation, physiotherapy exercises.*

Professional sports, regardless of its type, can lead to various types of injuries due to ever-increasing physical exertion, impaired functional activity of the neuromuscular and musculoskeletal systems. According to statistics, sports injuries have increased numbers and increase annually, thereby representing a particular danger due to the increase in the number of athletes involved in professional sports [1,2,4].

The analysis of literature sources shows that most of the injuries of the lower extremities are injuries of the ankle joint with obligatory damage to the ligamentous apparatus (75%) [3,5,15].

This dictates the need to conduct studies and search for the causal factors in the development of joint injuries in order to be able to detect them early, followed by treatment and rehabilitation. The goal of a sports doctor is to implement rehabilitation measures to enable a quick return to sports activities without serious losses, with the restoration of the functional activity of injured limbs or other parts of the body. At these stages, the complex participation of sports medicine specialists, together with traumatologists and rehabilitation specialists, is necessary. This is necessary to ensure early diagnosis of trauma and the speedy introduction of rehabilitation measures [4-6].

Features of the anatomical structure of the ankle joint, its muscular-ligamentous apparatus contributes to the occurrence of most injuries (90%) with damage to the external ligaments, ruptures of the deltoid ligaments and the anterior or posterior part of the articular capsule [1,5].

Modern traumatology has new methods of treatment, which are conservative, they allow to overcome the instability of the ankle joint, without long-term restrictions on the competitive activity of the athlete and a quick return to duty. Most traumatic injuries are accompanied by a rupture of the Achilles tendon, which increases the recurrence of injuries and the time of rehabilitation recovery. This explains the need to improve and refine the stages of complex rehabilitation for the restoration of the ankle joint, damage to the ligamentous apparatus, based on the anatomical features of the joints, as well as the biomechanical mechanisms of development and injuries [3,7,8].

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The ankle joint is a complex joint that is important for maintaining the balance of the human body, as well as providing a stable position of the body in space. Traumatization is caused by various changes, such as dislocations and subluxations of the knee joints, leading to a loss of body balance, while the main supporting function is performed by the ankle joint. Overload on the muscular-articular apparatus of the upper limbs, associated with damage to large joints, leads to a transfer of load with an injury to the ankle joint and a rupture in the tendons and muscles. The ligamentous apparatus of the ankle joint ensures its stability and the ability to hold body weight. Depending on the damage to the ligamentous apparatus, there are more than 90% ruptures of the anterior talofibular ligament (of which 65% are isolated and combined 25%), they are distinguished according to the degree of damage - sprain, complete rupture of the ligament and combined rupture. Injuries are associated with the mechanisms involved in plantar flexion and supination of the foot during the movement of athletes (wrestlers, football players, hockey players, etc.) [9,10,11].

Due to the weak elasticity of the muscular-ligamentous apparatus of the ankle joint, during traumatization, ruptures of muscle fibers and ligaments occur for the most part. The main clinical sign is severe pain, swelling in the ankle joint, as well as instability when holding the body in space. With severe injuries, fractures of the ankles, as well as the bones that make up the ankle joint, can occur. Severe injuries completely limit movement, both in small and large limbs, which requires x-ray examination in two projections in order to clarify the diagnosis of areas of damage. The subsequent tactics of treatment procedures depend on the complexity and localization of injuries, fractures, this requires the restriction of athletes, both in movement and in sports, until the joint is fully restored, its fusion and return of active functional muscular-articular activity [4,12,18].

The main pathogenic link in the occurrence of an injury to the ankle joint is the level of exposure to the traumatic moment, after which the processes of damage to the soft tissue component, the ligamentous - muscular apparatus and osteoarticular structures begin, which is manifested mainly by the development of soft tissue edema in the area of the injury, followed by and the development of pathogenic changes in the form of damage to blood and lymphatic vessels, which are the main trigger for the formation of edema. All these processes are associated with the occurrence of subsequent compression of the surrounding tissues, an increase in edema and the development of a severe pain syndrome [13,14].

And everyone knows that people involved in sports are especially prone to ankle injuries. Of these injuries, 86% are sprains. Acute ankle sprains occur during dynamic movement, especially when changing direction quickly. The lateral ankle ligaments that provide static support are often torn, and the stability provided by the peroneal muscles is insufficient to limit forced inversion. Due to the frequency of ankle injuries, a significant amount of epidemiological research has been conducted to investigate the causes and effects of various methods used to prevent such injuries. High trauma to the lower extremities, especially the ankle complex, contributed to the spread of external devices to stabilize this joint. To prevent ankle injuries and stabilize patients suffering from chronic ankle instability, various recovery methods are used, such as taping, exercise therapy, and massage. Ankle bracing and taping reduce ankle injury 9–12 and injury rates primarily due to the mechanical support offered by these devices, although increased sensorimotor function provided by external ankle support may be a contributing factor [2,12,15].

The search for literature sources made it possible to determine the existing problem and assess the relevance of the ongoing scientific research, which is aimed at developing and searching for new modern methods, therapy regimens that will improve the quality of therapy for ankle injuries in athletes and achieve early recovery of lost functions with a return to full-fledged sports activities [3,16].

To date, there are many methods that are used for the purpose of restorative and rehabilitation treatment. One of the currently validated methods is the use of electromyostimulation, the action of which is based on the elimination of lymph -venous outflow, therefore, an increase in blood flow velocity, with a decrease in lymph-venous stagnation and normalization of microcirculation [10,11,17].

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Also, one of the modern methods used and recommended in rehabilitation therapy is therapeutic gymnastics, which is a classic method of rehabilitation treatment, the main effect of which is based on increasing muscle tone, eliminating hemodynamic disorders [11,12].

Another method of recovery and early rehabilitation deserves attention - the use of kinesis taping, the impact on the lymphatic drainage system, followed by the improvement of lymph -venous outflow, microcirculation and tissue tropism. Ankle taping is a common preventive measure used by people involved in sports in various disciplines. When reviewing the literature on this issue, the sources are scarce and there is little information on the impact of ankle taping during the recovery period. And in our study, we want to prove the effectiveness of this method during the rehabilitation of athletes with ankle injuries [1,8].

Accordingly, the purpose of our study will be to evaluate and scientifically substantiate the inclusion of kinesis taping, electromyostimulation techniques, physiotherapy exercises, studying the quality of life in order to early recovery of athletes with an ankle joint injury in a comprehensive rehabilitation program [7,11,12].

In connection with the foregoing, taking into account the emerging trend towards the use of integrated approaches to early rehabilitation and recovery of athletes, an urgent task is to search for and develop the use of modern methods of kinesis taping, electromyostimulation, physiotherapy exercises with their subsequent inclusion in the treatment programs for athletes with traumatic injuries of the ankle joints. Taping methods are modern, non-invasive and are carried out taking into account the mechanisms and functional activity of the joints and the muscular-ligamentous apparatus [7,8,12].

As the literature sources on this problem show, there are currently many methods of restorative and rehabilitation therapy, but which method is preferable and the search for their complex in solving emerging problems in traumatic injuries of the ankle joint requires a scientific approach and justification, which is supposed to be carried out in the framework of this study.

This problem is being actively studied, scientific research is ongoing aimed at finding complexes for the treatment and rehabilitation of athletes with pathology and injuries of the ankle joint, there are gaps and clearly developed, pathophysiological sound approaches to treatment and rehabilitation measures that require continued research in this direction. Ultimately, we plan to develop a staged program for the rehabilitation of athletes with traumatic ankle injuries, which will increase the effectiveness of the use of complex rehabilitation methods and the soonest return of the athlete to professional sports.

BIBLIOGRAPHY

1. *Agasarov L.G., Khadartsev A.A., Kupeev R.V. Innovative methods of kinesiotherapy (literature review). // Bulletin of new medical technologies. Electronic edition. - 2020. - T. 14. - No. 3. - S. 124-136.*
2. *Akhtyamov IF, Aidarov VI, Khasanov ER Current methods of rehabilitation after arthroscopic reconstruction of the anterior cruciate ligament of the knee joint (review of literature). // GenijOrtopedii . - 2021. - T . 27. - no. 1. - C. 121-127.*
3. *Daminov V.D. Robotic mechanotherapy in neurorehabilitation . // Science of life and health. - 2013. - no. 3.*
4. *Kurov M.A., Golubev V.G. Chronic post-traumatic instability of the ankle joint at the present stage (literature review). // Department of Traumatology and Orthopedics. - 2017. - no. 4. - S. 27-34.2*
5. *Akhunova R.R., Bodrova R.A. Kinesiotherapy in patients with ankylosing spondylitis. // Bulletin of restorative medicine. 2020. No. 2 (96). pp. 18-23.*
6. *Bavykin P.V. Kinesiotherapy as an independent medical discipline // Physical culture, sport and health. 2014. No. 23. P. 106-107.*
7. *Biykuzieva A.A., Sharipov U.A. A complex of physiotherapy exercises and kinesiotherapy in the rehabilitation of children with cerebral palsy. // Development and topical issues of modern science. 2019. No. 3 (22). pp. 41-43.*
8. *Bronnikov V.A., Smychek V.B., Mavlikaeva Yu.A., Kravtsov Yu.I., Sklyannaya K.A., Plotnikova O.A., Vildeman A.V. Evaluation of the recovery of motor functions in post-stroke patients in the process of complex rehabilitation using robotic kinesiotherapy. Journal of Neurology and Psychiatry. SS Korsakov. 2016. V. 116, No. 9. S. 30-34.*
9. *Баратова С., Ким О. А., Шарафова И. А. Особенности темперамента и его влияние на выбор вида спортивной деятельности //Безопасный спорт-2016. – 2016. – С. 16-18.*
10. *Bronnikov V.A., Smychek V.B., Mavlikaeva Yu.A., Kravtsov Yu.I., Sklyannaya K.A. Using the method of robotic kinesiotherapy in patients with the consequences of a stroke // ConsiliumMedicum . 2017. Vol. 19, No. 2-1. pp. 49-52.*

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11. *Buylova T.V., Ivanova G.E., Zverev Yu.P. On the issue of training physical therapists, kinesiotherapists in Russia. // Bulletin of restorative medicine. 2016. No. 5 (75). pp. 47-52.*
12. *Kamalova Y.A., Dzhumanov Zh.A. The value of therapeutic exercises in the complex of methods of physical rehabilitation of patients with osteochondrosis of the lumbar spine // Bulletin of science and education. – 2020. – no. 23-3 (101).*
13. *Баратова С., Ким О., Мавлянова З. Оценка антропометрических показателей и гармоничности физического развития спортсменок //Журнал вестник врача. – 2019. – Т. 1. – №. 4. – С. 40-42.*
14. *МАХМУДОВ С. М., КИМ О. А. ЁШЛАРДА БИОИМПЕДАНСМЕТРИЯГА АСОСЛАНГАН ҲОЛДА НУТРИТИВ ҲОЛАТНИ БАҲОЛАШ //ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ. – 2022. – Т. 7. – №. 4.*
15. *Ким О. А., Шарафова И. А., Баратова С. С. Мигрень у спортсменов: особенности и методы коррекции //Безопасный спорт-2016. – 2016. – С. 78-80.*
16. *Шарафова И. А., Ким О. А. Изменения показателей частоты сердечых сокращений у спортсменов-подростков, занимающихся таэквондо в условиях города Самарканда //Материалы XXIII съезда Физиологического общества им. ИП Павлова с международным участием. – 2017. – С. 2108-2109.*
17. *ХУДОЙКУЛОВА Ф. В., МАВЛЯНОВА З. Ф. JIGARNING NOALKOGOL YOG'XASTALLIGIGA ZAMONAVIY QARASHLAR //ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ. – 2022. – Т. 7. – №. 4.*
18. *Худойкулова Ф. В. и др. the structure, age features, and functions of hormones. pedagog, 1 (5), 681-688. – 2023.*